

Ground Water Program

Lisa Ross

**Environmental Program Manager I
Environmental Monitoring Branch**

Department of Pesticide Regulation



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Hexazinone Detections in Ground Water and DPR Response Process

**Pesticide Contamination Prevention Act
Hexazinone Detections in Ground Water
Detection Response Process
Hexazinone Timeline**

Pesticide Contamination Prevention Act (PCPA - AB 2021)

- Enacted in 1985



Purpose of PCPA

- Prevent further pollution of ground water due to legal agricultural use of pesticides

Pollution = introduction into the ground water of an active ingredient above a level, with an adequate margin of safety, that does not cause adverse health effects.

PCPA Requires DPR to:

1. Collect environmental fate data for agricultural use pesticides



Environmental Fate Data

Measures of mobility

- Water solubility
- Soil adsorption coefficient (K_{oc})

Environmental Fate Data

Measures of persistence

- Hydrolysis half-life
- Aerobic soil metabolism half-life
- Anaerobic soil metabolism half-life
- Field dissipation half-life

PCPA Requires DPR to:

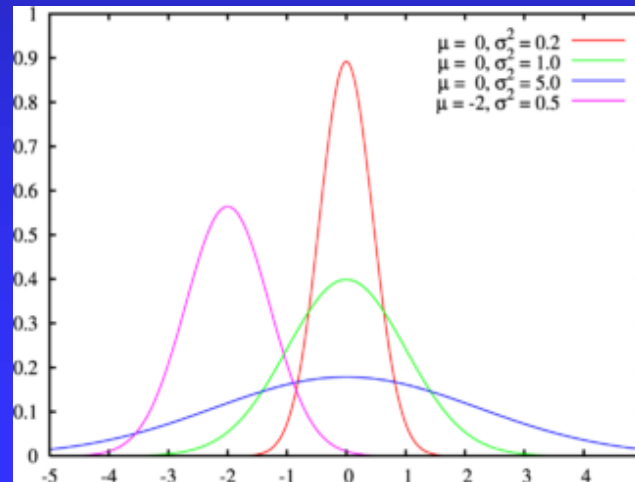
2. Use those
data to identify pesticides
with the potential to
pollute GW

Analyzed Pesticides				
[Detection limits in parentheses, classes in green, detected compounds in red]				
Triazines	Organophosphorus	Organochlorines	Carbamates	Carbamates
Atrazine (0.001)	Disulfoton (0.007)	Bromacynil (0.04)	3-hydroxycarburean (0.11-0.20)	2,4-D (0.11)
Deethylatrazine (0.002)	Ethionop (0.003)	Chlorothalonil (0.40)	Aldicarb (0.21-6.0)	2,4-DB (0.10-0.20)
Cyanazine (0.004)	Fenofos (0.003)	Dieldrin (0.001)	Aldicarb-sulfone (0.10-0.12)	Acifluorfen (0.00)
Methidathion (0.004)	Malathion (0.003)	P,P'-DDE (0.006)	Aldicarb-sulfonide (0.02-0.30)	Chloramben (0.14)
Prometon (0.010)	Methyl Azinphos (0.001-0.05)	A-BHC (0.002)	Butylate (0.002)	DCPA (0.002)
Simazine (0.003)	Methyl Parathion (0.006)	G-BHC (0.004)	Carbaryl (0.003 0.07)	Dicamba (0.04)
	Parathion (0.004)		Carbofuran (0.002-0.20)	Dichloroprop (0.00)
Pyrethroid		Amides	EPTC (0.002)	MCPA (0.17)
Permethrin (0.005)	Phorate (0.002)	Nicopamide (0.003)	Methiocarb (0.03)	MCPB (0.12)
	Terbufos (0.013)	Pronamide (0.003)	Molinate (0.004)	Picloram (0.05-0.10)
Phenyl Ureas	Phosphothioates	Propachlor (0.007)	Oxamyl (0.02-0.30)	Triclopyr (0.20)
Diuron (0.00)	Chloroacetanilides	Propant (0.004)		
Fenuron (0.07-0.70)	2,5-D (0.003)	Dinitroaniline	Pebulate (0.004)	
Fluometuron (0.06)	Acetochlor (0.002)	Bertholurin (0.002)	Propham (0.04-0.17)	
Linuron (0.002)	Alachlor (0.002)	Ethalfuralin (0.004)	Propoxur (0.00)	
Neburon (0.07-0.95)	Metolachlor (0.002 0.01)	Pendimethalin (0.004)	Thiodicarb (0.002)	
Tebuuthuron (0.01)		Terbufos (0.002)	Triallate (0.01)	
		Sulfite Ester		
		Propargite (0.013)	Hydroxyacid	
		Benzonitriles	Bromacil (0.06-0.63)	
		Dichlobenil (0.07)	DNOC (0.42)	
		Terbacil (0.007)	Dinoseb (0.06)	
		Lysidazins	Aminosulfonyl	
		Chlorpyrifos (0.004)	Bentazon (0.04)	
		Norflurazon (0.04-0.50)	Oryzalin (0.31)	



PCPA Requires DPR to:

3. Establish specific numerical values (SNVs) for mobility and persistence to distinguish leachers from nonleachers



PCPA Requires DPR to:

4. Annually list the pesticides that exceed at least one mobility SNV and at least one persistence SNV on the DPR Web site

PCPA Requires DPR to:

5. Establish the Groundwater Protection List

= pesticides that exceed at least one mobility and one persistence SNV and:

- that are intentionally soil-applied or
- the label of which recommends flood or furrow irrigation within 72 hours of application

PCPA Requires DPR to:

6. Sample wells to determine if Ground Water Protection List pesticides are migrating to Ground Water



PCPA Requires DPR to:

7. Determine if detected pesticides are due to legal agricultural use



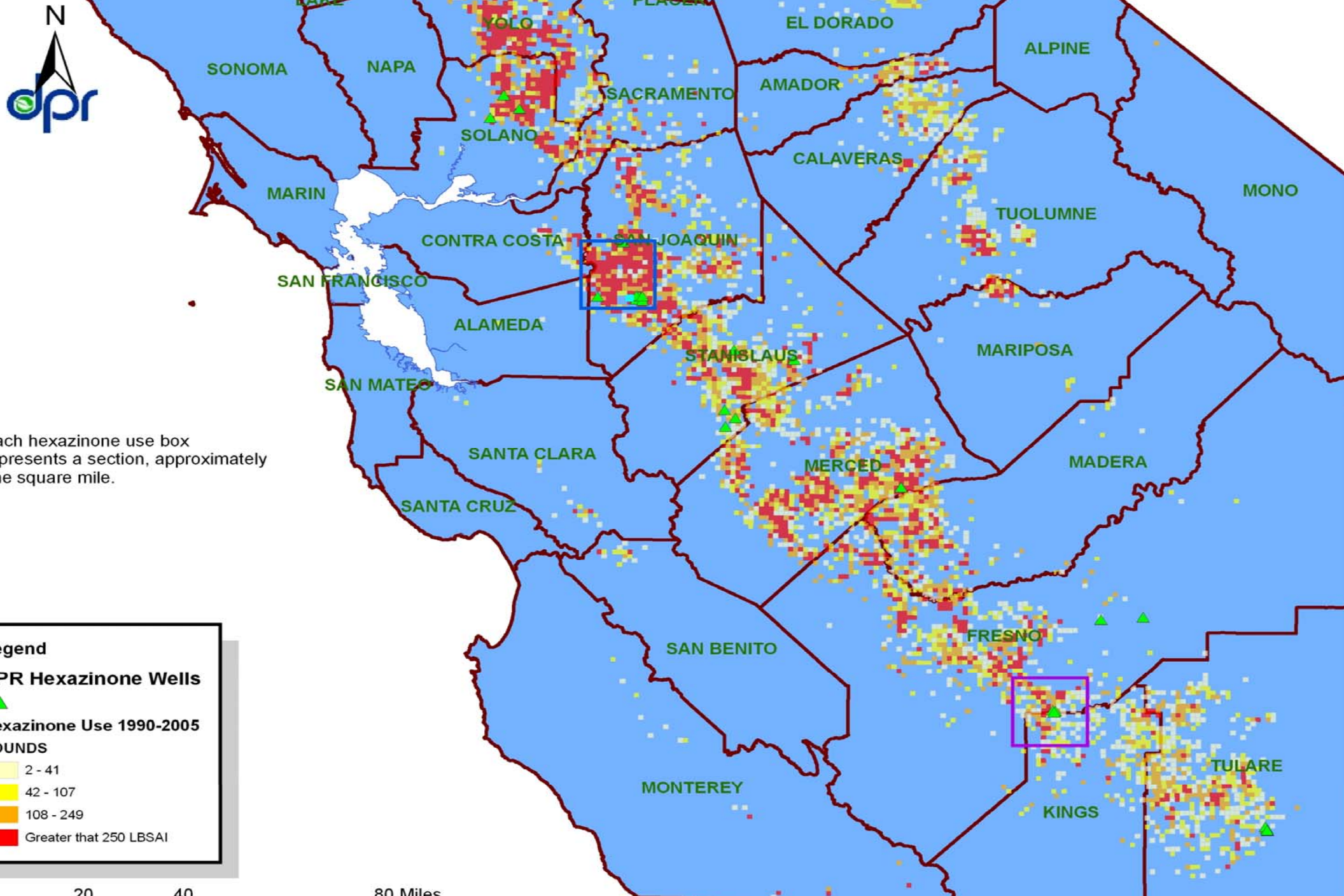
PCPA Requires DPR to:

8. Formally review pesticides found in GW due to legal agricultural use to determine if continued use can be allowed



Hexazinone Detections in CA GW

- Hexazinone detected in 26 of 2300 wells sampled for hexazinone
- Concentrations range from 0.05 to 0.27 ppb
- Legal agricultural use as source of contamination confirmed in 2 of 8 counties where detections occurred





Each hexazinone use box represents a section, approximately one square mile.

Legend

PR Hexazinone Wells

PR Hexazinone Tested Wells

Townships

Ground Water Protection Areas

Hexazinone Use 1990-2005

BOUNDS

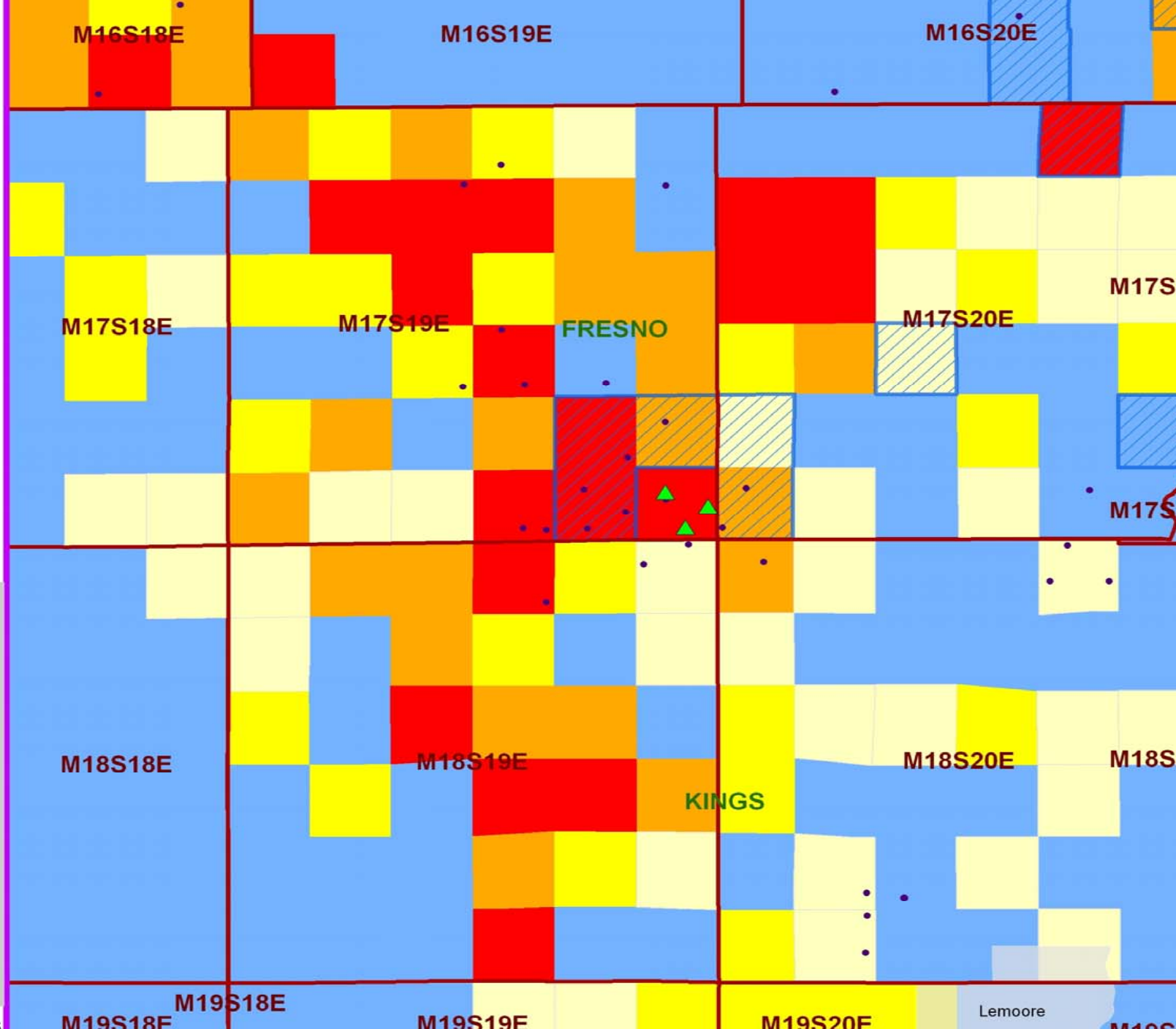
2 - 41

42 - 107

108 - 249

Greater than 250 LBSAI

Cities



Formal Review

- Registrant notified of detections and must request a hearing. Otherwise agricultural-use products cancelled.
- Subcommittee of PREC holds a hearing
 - 3 Member subcommittee consists of
 - OEHHA
 - SWRCB
 - DPR

Formal Review

- Subcommittee of PREC makes 1 of 3 specified recommendations to DPR Director:
 1. Does not threaten to pollute
 2. Use can be mitigated
 3. Any use modification or cancellation causes severe economic hardship and there are no alternatives

Formal Review

- Director makes a final determination based on the subcommittee recommendations or makes a contrary finding as specified in the law

HEXAZINONE HEARING TIMELINE

Reply must be
within 30 days

Registrant Notice
issued
11/1/2010

Hearing Request
By 12/1/2010
Response received
11/23/10

Notice to
PREC, interested
parties and
posted DPR Web site
Target date:
3/25/2011

Report/information from
registrant and
written comments from
public due to DPR
Target date: **4/9/2011**

Information from
Registrant and public
posted on
DPR Web site
Target date: **4/19/2011**

Public hearing held within 180 days after hearing request

HEARING
May 9, 2011

Additional
written comments
due
5/24/2011

Notice to PREC
listserve, Web site, &
interested parties
5/27/2011

PREC subcommittee
deliberative meeting
6/7/2011

Within 90 days hearing
PREC subcommittee
issue recommendations
to Director
8/8/2011

Within 30 days after
Subcommittee findings
Director makes
1 of 4 decisions
9/7/2011



Questions?
